UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 10
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December 3, 2008

EPA Ref: 06-047-FRC

The Honorable Kimberly D. Bose, Secretary
Federal Energy Regulatory Commission
888 First St., NE, Room 1A
Washington, DC 20426

Docket Nos. CP07-444-000
CP07-441-000

Dear Secretary Bose:

The U.S. Environmental Protection Agency (EPA) has reviewed the Draft Environmental Impact Statement (DEIS) for the Jordan Cove Energy and Pacific Connector Gas Pipeline Project (CEQ No. 20080343). Our review has been conducted in accordance with our responsibilities under the National Environmental Policy Act (NEPA) and Section 309 of the Clean Air Act.

Staff of the Federal Energy Regulatory Commission (FERC) have prepared this DEIS for the construction and operation of the liquefied natural gas (LNG) import terminal and natural gas pipeline facilities, proposed by Jordan Cove Energy Project, L.P. (JCE) and Pacific Connector Gas Pipeline Project, L.P. (PCGP). Specific components of the project include an access channel from the existing Coos Bay navigation channel to the terminal; a triple berth slip projected to receive 80 LNG carrier ships per year; interconnecting facilities including piping, electrical, and control systems; two LNG storage tanks with a capacity of 160,000 cubic meters; vapor handling, re-gasification and sendout systems; a natural gas liquids (NGL) extraction facility; a 37-megawatt, natural gas-fired powerplant; utilities and other support systems, associated buildings and enclosures, and a 229.5 mile-long, 36-inch-diameter sendout pipeline, extending from the LNG terminal to near Malin, Oregon at the California border. The pipeline would require a compressor station at Butte Falls, in Jackson County; four meter stations, a gas control communication system; 16 mainline block valves, and five pig launchers and receivers.

EPA recognizes the management challenges created by the mixed private/federal ownership of the project area, the diverse resource needs, and multiple statutory requirements. The FERC staff are to be commended for their effort in this ambitious and difficult undertaking. We also want to recognize the efforts of FERC, the applicant, and their contractors to engage state and federal resource agencies, as well as the tribes, in a meaningful dialogue about this project. We trust this will help inform FERC's selection and development of the proposed action in the final EIS.

EPA has served as a cooperating agency on this project. In that capacity, EPA has participated on a number of working groups, including an interagency task force, a dredging subgroup, and a water body crossing methodology subgroup. We are pleased with the progress that was made in these workgroups. In particular, we are pleased with the effort on the part of the applicant and FERC to identify innovative and beneficial ways to dispose of 5.6 million cubic yards of construction-generated sediment and to seek an upland route around Coos Bay that would minimize aquatic resource impacts.

However, as a result of the FERC filing process, the proposed alternative continues to reflect an in-bay placement of the pipeline. We recognize that FERC has issued a recommendation that an upland route variation be identified as the preferred alternative in the final EIS, but as an upland route is not fully

analyzed in the DEIS, our review must necessarily focus on the proposed, in-bay route. We are concerned that this route may not be consistent with §404 of the Clean Water Act (CWA). The CWA §404(b)(1) Guidelines require, in part, that no discharge of dredged or fill material shall be permitted if there is a practicable alternative to the proposed discharge which would have less adverse impact on the aquatic ecosystem. Our review identified concerns with the in-bay route related to sediment resuspension; impacts to wetland and eelgrass habitat; impacts to cultural resources; and impacts to other sensitive resources. We believe that the proposed alternative may not represent the least environmentally damaging practicable alternative (LEDPA) under the §404(b)(1) Guidelines and that the potential for significant environmental degradation could be effectively addressed through the adoption of an upland route.

We also have concerns related to the disposal of sediment generated through maintenance dredging. The DEIS states that the preferred alternative involves a proposal to dispose of 410,000 cubic yards of sediment every two years at the EPA designated ocean disposal site F. The Marine Protection, Research and Sanctuaries Act (MPRSA – 40 CFR Part 227.16(a) and (b)) requires the project proponent, before proceeding to ocean disposal, to demonstrate that there are no practicable alternative disposal locations or methods of disposal or no practicable improvements in process technology or waste treatment for the dredged material that could result in a reduction in adverse impacts to the ocean. EPA recommends that a proposal involving ocean disposal should be carefully analyzed and coordinated so as to keep the disposed sediment within the littoral system, maximize the life of the disposal site, and meet the goals of regional sediment management. EPA is concerned that the alternative may not adequately address these requisites for ocean disposal.

Finally, our review has identified inconsistencies and data gaps within the document, as well as concerns with the adequacy of proposed wetland mitigation; the adequacy of the alternatives analysis; and the adequacy of the cumulative impacts analysis. Our detailed comments and recommendations to address each of the issues raised above are enclosed.

Due to the potential degradation of in-bay resources associated with the preferred alternative pipeline route identified in the DEIS, and concerns over the inadequate level of analysis devoted to key resources, we have assigned this draft EIS a rating of EO-2 (Environmental Objections - Insufficient Information). A copy of the rating system used in conducting our review is enclosed for your reference. EPA appreciates the opportunity to engage with FERC as a cooperating agency and recognizes the challenges posed by adhering to the rigorous schedule assigned to this EIS. EPA remains committed to working with FERC with the goal of reaching final agreement in selecting an upland pipeline route and regarding disposal of sediments.

If you have any questions regarding EPA's comments, please contact me at (206) 553-8574, or Teresa Kubo of my staff at (503) 326-2859.

Sincerely,

/s/

Richard B. Parkin, Acting Director
Office of Ecosystems, Tribal, and Public Affairs

Enclosures: 1) EPA Region 10 Detailed Comments
2) EPA Rating System for Draft EISs

EPA Region 10 Detailed Comments on the
Jordan Cove Energy and Pacific Connector Gas Pipeline
Draft Environmental Impact Statement
12/3/2008

Coos Bay Pipeline Route

EPA recognizes and supports FERC's recommendation on page 3-36 in the DEIS to adopt an upland route variation that will reduce the overall amount of pipeline construction in Coos Bay. However, EPA's policy requires us to focus our review on the proposed or preferred alternative identified in the DEIS. EPA remains eager to coordinate with FERC to pursue identification of the upland route as the proposed alternative. At present, the proposed alternative identified in the DEIS includes the construction of 6.9 miles of pipeline through Coos Bay. Our review, therefore, is focused on the proposed in-water route, with additional consideration given to the upland route variation
(WC-1A). We are concerned that the proposed route may not be consistent with §404 of the Clean Water Act (CWA). The CWA §404(b)(1) Guidelines require, in part, that no discharge of dredged or fill material shall be permitted if there is a practicable alternative to the proposed discharge which would have less adverse impact on the aquatic ecosystem. The review that follows has identified concerns with the in-bay route related to sediment resuspension; impacts to wetland and eelgrass habitat; and impacts to other sensitive resources. We believe that the proposed alternative may not represent the least environmentally damaging practicable alternative (LEDPA) under the §404(b)(1) Guidelines and that the potential for significant environmental degradation would be addressed through the adoption of an upland route.

<u>Sediment impacts</u>

Page 4.5-82 indicates that sediment concentrations associated with pipeline construction within the bay were not modeled as a part of the DEIS. Rather, the DEIS relies on modeling conducted for the dredging of the slip for the LNG terminal to provide guidance as to what sediment concentrations associated with pipeline construction would likely be. EPA is concerned with this approach to predicting sediment concentrations for a number of reasons. The amount of sediment produced by open cutting depends on multiple characteristics at the construction site including watercourse size, flow levels, the specific in-water activity, and the particle size distribution of the disturbed bed material[1]. The Draft Joint Permit Application for the pipeline indicates in Appendix H that the mean grain size for much of the pipeline route through the upper bay is significantly smaller (and therefore more prone to resuspension) than what would be found at the slip site (.04 mm verus .28 mm). Further, freshwater inputs from Coos River and the sloughs entering the bay on the east and south may alter flow dynamics along the pipeline right of way, particularly during the rainy season, which coincides largely with the proposed work window for pipeline installation (between October and February). These factors, together with the difference in overall scope (terminal dredging are expected to disturb approximately 25 acres, whereas pipeline installation would affect an estimated 243 acres), and differences in construction methodology (bottom stockpiling of the dredged sediment tends to increase the volume of sediment released into the water column) raise questions about the appropriateness of using the

[1] Reid, S.M., and P.G. Anderson. 1999. Effects of Sediment Released During Open-cut Pipeline Water Crossings. Canadian Water Resources Journal 24:23-39.

results from the dredging model for slip construction to predict impacts associated with pipeline installation.

Appropriate characterization and mitigation of these impacts is of key importance, given the number of sensitive resources along the route. Eelgrass growth can be negatively impacted by suspended sediment[2] as can the native olympia oyster (an Oregon state sensitive species), commercial oyster bed operations, and recreational clam beds. Further, Coos Bay is listed as critical habitat for the coastal coho salmon.

There is little discussion within the DEIS of best management practices (BMPs) and measures to mitigate for sediment impacts associated with the pipeline installation. Rather, it is anticipated that any sediment-related impacts will be addressed through the water quality certification process and the contractor-prepared turbidity monitoring and management plan (TMMP) that would be prepared as part of the final design. We are concerned that hydrodynamic conditions in the upper portion of the bay (current speeds in excess of 1.5 knots) may render silt curtains ineffective

EPA is further concerned about the nature of the sediments that may be resuspended during pipeline construction. The DEIS indicates on page 4.5-81 that, "A records search has not indicated any known hazardous waste sites in the area of Coos Bay that would be crossed by the pipeline, so toxic effects from resuspended sediment should not occur." It is well known, however, that over the past century, the Coos Bay estuary has been used for boat building, and hull painting and cleaning. Large volumes of particulate matter, including lead and butyltin (a contaminant associated with tributyltin oxyide-containing boat paint) could be disturbed with trenching. The proposed trenching would reach new depths, in locations outside the shipping channel, meaning that the project would encounter spoils not typically observed or sampled in the current maintenance dredging program. Of particular concern is the area near Catching Slough, which, as of 1997, was still demonstrating an elevated level of tributyltin contamination[3]. Resuspension of these chemicals, which are currently largely unavailable to the food web from buried sediments, could potentially subject aquatic species, terrestrial species, and humans that eat them, to increased exposure to toxic chemicals.

Recommendations:

- Should additional analysis find that route WC-1A is not feasible due to in-water or upland constraints, we recommend that the FEIS address the data gaps and impacts attendant to the proposed in-water route by:
    - Providing modeling of sediment concentrations associated with the in water trenching operation.
    - Providing a more robust discussion of BMPs that would be used to reduce sediment concentrations, including:
        - Decreasing the rate of dredging operation/slowing down dredge cycling

[2] Schultz, Stewart T. 1990. The Northwest Coast: A Natural History. Portland, Oregon: Timber Press.
[3] Elgethun K.; Neumann C.; Blake P. 2000. Butyltins in shellfish, finfish, water and sediment from the Coos Bay estuary (Oregon, USA). Chemosphere, Volume 41, Number 7, pp. 953-964(12)

- Limiting hours of operation to favorable tidal cycles (e.g., slack tides +/- 2 hours)
- Modifying the positioning of dredge and barge(s)
- Changing the rate at which material is physically lifted through the water column
- Modifying bucket movement to dislodge adhering material
- Ensuring slow deployment and retrieval of bucket (2 ft. per second near the bottom is a common limit)
- No sweeping of bucket along the bottom to smooth contours

o Characterizing existing sediment pollution problems in the bay, and analyzing the potential for any present pollutants to enter the food web.

o Including sampling protocols in the dredged material management plan (DMMP) and a requirement that spoils be tested and disposed of in a manner consistent with EPA and ODEQ criteria.

Impacts to Wetlands in Coos Bay Estuary

According to page 4.3-54 in the DEIS, installing the pipe in the Coos Bay estuary between about MPs 0.7 and 7.5 would cross 6.8 miles of estuarine wetlands, impacting approximately 238 acres of wetland and open water habitats. We recognize that the proposed pipeline impacts would be temporary. Among the areas impacted are 19.9 acres of salt marsh. Salt marshes are a key, but underrepresented, habitat component within the estuarine system on the West Coast[4]. Oregon has experienced a 38% loss in salt marsh habitat, and the Coos Bay estuary contains less than 10% of its original salt marsh habitat, due to fill, dredging, and other development-related disturbances[5]. We are concerned about the temporal loss of wetland function in these areas, particularly given the overall scarcity of salt marsh habitat within the Coos Bay estuary.

Recommendation:

- Revise the wetland mitigation plan for the Coos Bay route to address temporal losses in wetland function. Identify appropriate mitigation measures through consultation with appropriate state and federal agencies.

Eelgrass Impacts

There are varying estimates in the DEIS as to the extent of potential impacts to eelgrass beds affected by construction of the pipeline. Surveys conducted for Pacific Connector by Ellis Ecological (page 4.3-54) indicate a total of 16.8 acres would be impacted, whereas mapping conducted by Clinton (2007, as referenced in the DEIS) indicates that construction along the proposed route could remove up to 39.7 acres of eelgrass within the construction right-of-way and bury 7.5 acres of eelgrass in temporary extra work areas (TEWAs) to support anchoring the lay barge and for spoil storage (page 4.5-83). These varying estimates appear to also drive varying estimates for overall mitigation. According to the 2008 mitigation plan developed by Ellis Ecological Services, a total of 16.8 acres of eelgrass would be replanted (proposed 1:1 replacement). Page 5-16 of the DEIS, however, states that Pacific Connector would replant

[4] Schultz, Stewart T. 1990. The Northwest Coast: A Natural History. Portland, Oregon: Timber Press.
[5] South Slough National Estuarine Research Reserve. Oregon's Salt Marshes. Available at http://www.oregon.gov/DSL/SSNERR/docs/EMIpubs/marshes.pdf. Accessed 11/7/2008.

nearly 40 acres of eelgrass along the pipeline route. This lack of consistency creates an unclear picture of the overall impact to this important habitat within the bay.
We are further concerned with the lack of specificity in the DEIS regarding the overall plan for mitigation. Eelgrass cannot be effectively propagated and so must be harvested from donor beds within the estuary. It is not clear if the existing eelgrass beds within the estuary can provide donor stock sufficient to revegetate 16.8 (or 40) acres. The mitigation plan indicates that donor stock removal would not exceed 10% of the existing population, but no site specific analysis or revegetation plan is included to verify that this is an achievable goal. It is also unclear what the proposed donor stock removal would do to the overall eelgrass populations and densities. Finally, as with impacts to the salt marsh, there would be the temporal loss of functional eelgrass habitat which affects overall system productivity. The transplanted areas will not initially provide habitat comparable to the original as the densities will be much lower for several years.

Recommendations:

- Revise the mitigation/restoration strategy for eelgrass to ensure the creation of an area greater than what is impacted to compensate for temporal loss, and establish the ratio through consultation with appropriate state and federal agencies.
- Revise the eelgrass mitigation plans to include a revegetation plan.
- Address inconsistencies in the DEIS related to the anticipated acreage of wetland impact and mitigation.

<u>Route Variation WC-1A</u>
As indicated at the various Water Body Crossing Subgroup meetings, EPA is supportive and appreciative of the efforts of FERC and the applicant to identify an alternate upland route. Based on information to date, it appears that the upland route variation WC-1A would likely reduce water construction-related impacts, and would, therefore, be environmentally preferable. This is due largely to the fact that the in-bay portion of route WC-1A avoids traversing the length of the bay. However, route WC-1A would still require an open cut of 1.9 miles across Haynes Inlet. The DEIS does not contain a fully developed analysis of this route, or a characterization of sensitive resources that may be encountered, either in Haynes Inlet or along the upland portion of the route.

Recommendation:

- Provide in the FEIS an analysis and mitigation plan for route WC-1A that addresses each of the concerns raised above (impacts to wetlands, eelgrass, and sediment impacts), as well as impacts to oyster and clamming beds, cultural resources, essential fish habitat and upland resources.

Impacts to Cultural Resources
Coos Tribes have requested that the Coos Bay alignment of the proposed pipeline be abandoned in order to avoid impacting 16 recorded weir sites and have indicated their objection to any route that would have an adverse effect on cultural sites (4.10-6).

Recommendation:

- We recommend that FERC continue to consult with the affected tribes on a government-to-government basis and pursue appropriate changes based on the requests of tribes to protect cultural resources.

Wetland Impacts from the Pacific Connector Pipeline

The Pacific Connector pipeline would cross approximately 14.9 miles of wetlands within 554 wetland systems, affecting about 405 acres of wetlands and 379 stream crossings. Permanent wetland impacts are estimated to be limited to approximately 1.2 acres. These impacts are proposed to be mitigated through the purchase of credits at a wetland mitigation bank located near Roseburg, Oregon (Cow Hollow Mitigation Bank).

EPA has concerns with the adequacy of the assessment of pipeline impacts in the DEIS. Although most impacts would be temporary, the restoration success at each site is uncertain, the potential that unintended alteration of wetland or stream hydrology, condition will occur as a result of the pipeline construction activities is not discussed, and the potential for unanticipated release of drilling mud (frac-outs) is not assessed.

Recommendation:

- We recommend additional restoration/acquisition efforts along the project area in order to ensure no net loss of wetland or other aquatic resources.

Dredging and Sediment Disposal

EPA commends FERC and the applicant for working closely with state and Federal agencies to arrive at a plan for the disposal of 5.6 million cubic yards of construction-related sediment. We continue to have concern, however, over the disposal of material generated through maintenance dredging. The DEIS is proposing that this material would be disposed of off shore at Site F (an EPA designated offshore disposal site). Site F is a large site (3,075 acres) that offers opportunity for both near shore and deep water disposal. Currently, the U.S. Army Corps of Engineers (Corps) utilizes Site F to dispose of material generated through federally authorized entrance channel maintenance dredging.

Consistent with the principles of regional sediment management, EPA and the Corps have developed a site management and monitoring plan (SMMP) for Site F that calls for the careful rotational utilization of the shallower portions of the site, along with frequent bathymetry surveys. This allows us to maximize use of the more dispersive environment on this part of the site, increase sediment dispersal into the littoral system, minimize deep water disposal, and lengthen overall site capacity. The volume of dredged material proposed in the DEIS would represent an increase of approximately 50% over the historical average of annual maintenance dredging. Should Jordan Cove Energy require access to Site F concurrent with the Corps, the shallower portions of the site may lose capacity early in the dredging season, requiring use of the deep water portion of the site. This would result in a loss of sediment to the littoral system and potentially compromise the long term capacity of the site.

We are concerned that channel maintenance dredging requirements have been underestimated. At present, the navigation channel is maintained at -37 feet (with advance maintenance dredging

to -39 feet). Page 2-8 of the DEIS states that LNG carriers would be coming into Coos Bay with a loaded draft of 40 feet deep. According to the Corps, a navigational channel should be at least 10 percent deeper than the draft of the vessel (or in this case -44 feet). The carriers could navigate to and from the proposed terminal in high water conditions (p. 4.12-35), but given that high tides are in the 6 foot range the majority (75%) of the time, the LNG carriers would be operating largely with only 3 feet of overdraft. Further, this assumes no siltation into the navigation channel (which is very steep sided and shallows quickly outside of the 300 foot channel). In order to ensure safe transit of the LNG tankers it may be necessary to conduct more frequent bathymetric surveys and more maintenance dredging than has been conducted in the past.

Finally, we note that there is inconsistency within the DEIS with respect to the amount of material that would be generated through maintenance dredging. Page 4.5-69 indicates maintenance dredging would generate 350,000 cubic yards (cy) every 2 years, where as page 4.3-22 puts that estimate at 410,000 cy every 2 years.

Recommendations:

- Provide an analysis in the FEIS using an accepted sediment transport model, such as one of the FATE models, to assess the effects of disposing of the proposed quantity of material on the long term capacity of Site F.
- If the Commission approves the project, include as a condition to the Commission's authorization that the applicant work closely with the Corps and EPA to ensure maximum use of the shallower portion of Site F.
- Provide an analysis in the FEIS of a potential suite of best management practices to be included as conditions to the Commission's authorization that would guide how the various users of Site F would coordinate on a daily/weekly basis in order to ensure that the site is dispersing as anticipated and that there is no occurrence of sea floor mounding.
- Provide an analysis in the FEIS that addresses any implications of use of the navigation channel by LNG carriers to the timing, location and amount of annual maintenance dredging conducted by the Corps and the potential impacts to the amount of material that would need to be accommodated at Site F.
- Address discrepancies in the DEIS related to the quantity of material that would be generated through maintenance dredging.

Natural Gas Liquids Facility

On page 2-51, the DEIS discusses the development of a natural gas liquids (NGL) extraction, storage and loadout facility that would be owned and operated by an as-yet unspecified future third-party purchaser. This facility would capture the natural gas liquids from the imported LNG, and send the NGL through a pipeline to a storage facility located on the adjacent Roseburg property. The NGL storage facility would include a load-out facility that would contain a rail loading rack. From here the NGL would be loaded into railcars, and then transported away from the Roseburg facility on the existing Central Oregon and Pacific Railroad and delivered to a rail yard in Eugene/Springfield. Ultimately the NGL would need to be transported to a fractionation facility (likely in Kansas or Texas). The DEIS indicates on page 2-53 that impacts from the construction and operation of this facility will be addressed in the FEIS. In our reading of the DEIS we did not find the referenced analysis. Further, figure 2.2-1 on page 2-52, which is

intended to convey the location and configuration of the NGL facility, is not of a useful resolution. Overall, the DEIS does not have an adequate level of detail for EPA to be able to assess whether potential impacts associated with the construction and operation of this facility have been effectively addressed.

The heavier hydrocarbons associated with NGL (propane, butane, ethane) have safety and combustion characteristics that are different from LNG. The primary hazard of these heavier hydrocarbons is fire, either immediate upon vapor release or a delayed ignition of vapors which creates a potential hazard to the extent that the vapors are not dispersed below the lower flammable limit concentration.

Recommendations:

- Provide a safety assessment in the FEIS for the NGL vapor dispersion, which recognizes the density differences between NGLs and LNG.
- Provide detailed information in the FEIS about the appropriate design practices and safety precautions specific to the NGL facilities. Such precautions include additional hazard detectors, disposal of discharges from safety relief valves, thermal protection (fire proofing), and the firewater system.
- If firewater system estimates in the DEIS are not inclusive of the NGL facilities, provide these estimates in the FEIS.

Transportation of NGL

The DEIS indicates that the transportation of NGL via the existing railroad network is considered not to be directly related or interconnected to the construction or operation of the LNG terminal, and is, therefore, not analyzed (p. 2-53). EPA has concerns about the decision to exclude the transportation component of this project from the analysis. Rail cars loaded with NGL would not be present on the Coos Bay line but for the operation of the LNG terminal and the NGL extraction facility, and we would consider the transportation of these liquids to be a connected action. Including this component of the project in the analysis is particularly important given the current status of the Coos Bay line. On July 14, 2008, the Central Oregon Pacific Railway filed an application under 49 U.S.C. 10903 for permission to abandon and discontinue service of the line between Coos Bay and Eugene, Oregon, citing safety concerns. We recognize that the Port of Coos Bay has expressed an interest in taking over this portion of the railroad line. At present, however, this remains an unsettled question, as does the overall cost associated with addressing the noted safety concerns (up to $23 million). Having a viable transport option will be critical to the success of this element of the project.

Recommendations:

- Provide an analysis in the FEIS of the viability of a rail transport option.
- Should it become apparent that rail transport is not a viable alternative, include in the FEIS an analysis of other modes of transportation, e.g., truck transport.
- Include in the FEIS a discussion of best management practices and measures to increase the safety of transporting NGLs (e.g., routing, criteria for carrier selection, type of container) for all transportation alternatives.

Alternatives Analysis

Section 3.1.2 of the DEIS discusses system alternatives that may make it unnecessary to construct all or part of the proposed project. Many of the potential system alternatives (the Ruby, Bronco, Sunstone and Blue Bridge projects) are determined "not to have a clear environmental advantage" based in large part on pipeline length. It is not clear from our review of the DEIS how this determination was made. For example, "shorter" pipelines, such as the Coos County pipeline constructed in 2003 resulted in significantly more environmental damage than other longer pipelines recently under construction. The Coos County pipeline construction resulted in numerous violations for allowing soil and muddy water to enter local creeks, rivers and streams, harming the aquatic habitat. Further, the Pacific Connector pipeline has a high potential to impact waters due to dredging, crossing unstable slopes, crossing streams and wetlands, and moving through critical habitat for a number of listed species. This same level of risk may not be present on some of the other proposed pipelines, in spite of their length.

Recommendations

- We recommend the FEIS provide additional information and analyses regarding the potential environmental impacts of the system alternatives.

Cumulative Impacts

Section 4.13 discusses cumulative effects. This section includes a table (Table 4.13.1-1) that identifies a number of current or proposed actions potentially affecting the resources of concern. We commend FERC for its efforts to identify these activities. However, the DEIS does not consider the cumulative impact of these activities in conjunction with the Jordan Cove Energy and Pacific Connector Gas Pipeline project. Of particular concern are the potential cumulative impacts associated with the proposed navigation channel modification project. In January of 2008, the Corps of Engineers issued a notice of intent to prepare a feasibility study and EIS for the deepening of the Coos Bay navigation channel and construction of a containership terminal on the parcel adjacent to the Jordan Cove Energy site. This project would deepen the navigation channel by up to 14 feet and fill Henderson Marsh. Given the proximity of these projects, there is a potential for cumulative impacts to wetlands and wetland-dependant resources. Both projects would also require substantial construction and maintenance dredging, which may cause cumulative impacts to water quality and/or essential fish habitat. Finally, both projects have the potential to increase stationary and mobile emissions by increasing ship traffic and associated land based operations.

We recommend that additional consideration should also be given to the potential cumulative impacts to shoreline resources associated with a 160% increase in deep draft vessel use within the bay. As noted on page 4.5-51, propeller wash from LNG vessels and tug boat propellers associated with the proposed project, as well as ship wakes breaking on shore could cause increased erosion along the shoreline and resuspend the eroded material within the water column. FERC rightly recommends that these effects be modeled, however, the DEIS does not consider the potential for near shore impacts created by LNG traffic together with current, proposed, and reasonably foreseeable shipping traffic.

Recommendations

- Expand the cumulative impacts analysis in the FEIS to consider impacts to wetlands and wetland-dependent species, water quality and/or essential fish habitat, and air resources associated with the proposed channel modification and containership terminal project.
- Consider in the FEIS the potential for near shore impacts created by LNG traffic together with current, proposed, and reasonably foreseeable shipping traffic (e.g., the proposed containership terminal adjacent to the proposed LNG terminal, the proposed general cargo dock at the LNG terminal site, and the proposed north spit barge slip at Southport Forest Products).

Cold Ironing

On page 4.11-8, the DEIS indicates that all ships calling on the LNG terminal would be able to accept shore power. We commend the applicant for committing to the use of this technology as it would significantly reduce overall air emissions associated with the terminal operation, as well as the amount of cooling water required by the LNG carriers.

Recommendations:

- Due to the reductions in diesel emissions and cooling water requirements associated with the use of shore power, we recommend that the use of ships able to accept shore power be included as a condition of the Commission's authorization, should the project be approved.